

Fig. 2 is a flow chart showing the method of operation according to the preferred embodiment of the invention.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Figure 1 is a high-level block diagram showing the environment in which the facility preferably operates. The diagram shows a number of Internet customer or user computer systems 101-104. An Internet customer preferably uses one such Internet customer computer system to connect, via the Internet 120, to an Internet publisher computer system, such as Internet publisher computer systems 131 and 132, to retrieve and display a Web page.

Although discussed in terms of the Internet, this disclosure and the claims that follow use the term "Internet" to include not just personal computers, but all other electronic devices having the capability to interface with the Internet or other computer networks, including portable computers, telephones, televisions, appliances, electronic kiosks, and personal data assistants, whether connected by telephone, cable, optical means, or other wired or wireless modes including but not limited to cellular, satellite, and other long and short range modes for communication over long distances or within limited areas and facilities.

In cases where an Internet advertiser, through the Internet advertising service company, has purchased advertising space on the Web page provided to the Internet customer computer system by the Internet publisher computer system, the Web page contains a reference to a URL in the domain of the Internet advertising service company computer system 140. When a customer computer system receives a Web page that contains such a reference, the Internet customer computer systems sends a request to the Internet advertising service computer system to return data comprising an advertising message, such as a banner advertising message. When the Internet advertising service computer system receives such a request, it selects an advertising message to transmit to the Internet customer computer system in response the request, and either itself transmits the selected advertising message or redirects the request containing an identification of the selected advertising message to an Internet content distributor computer system, such as Internet content distributor computer systems 151 and 152.

When the Internet customer computer system receives the selected advertising message, the Internet customer computer system displays it within the Web page. The Internet advertising service is not limited to banner advertisement, which are used as an example. Other Internet advertising modes include email messages directed to a user who has provided his or her email address in a request for such messages.

The displayed advertising message preferably includes one or more links to Web pages of the Internet advertiser's Web site. When the Internet customer selects one of these links in the advertising message, the Internet customer computer system de-references the link to retrieve the Web page from the appropriate Internet advertiser computer system, such as Internet advertiser computer system 161 or 162. In visiting the Internet advertiser's Web site, the Internet customer may traverse several pages, and may take such actions as purchasing an item or bidding in an auction. The Internet advertising service computer system 140 preferably includes one or more central processing units (CPUs) 141 for executing computer programs such as the facility, a computer memory 142 for storing programs and data, and a computer-readable media drive 143, such as a CD-ROM drive, for reading programs and data stored on a computer-readable medium.

While preferred embodiments are described in terms of the environment described above, those skilled in the art will appreciate that the facility may be implemented in a variety of other environments, including a single, monolithic computer system, as well as various other combinations of computer systems or similar devices.

Figure 2 shows a process flow for the predictive assessment of an Internet advertisement according to a preferred embodiment of the invention. The process is intended to provide improved accuracy in predicting Gross Ratings Points ($= 100 \times \text{number of impressions} / \text{total population}$), Reach (percentage of total users who are served an advertisement), and Frequency (the number of advertisements served to a selected or average user.)

The activity discussed herein is largely conducted by the advertising service company, but many of the process steps to be discussed below may be performed by the client/advertiser, or

their in-house advertising company. Tools, such as software and equipment programmed to generate the process detailed below, may be used by any of the entities, or combinations of them. The tools may be internal to the Advertising Service Company, to generate results transmitted to clients, or the tools may be created for interactive use by the clients.

- 5 The process begins by the collection of several types of data. As shown in Figure 2, in step 200, the Advertising Service Company 140 collects anonymous web-surfing frequency data. "Frequency" is simply the number of impressions a user receives, and the frequencies for a population will be distributed differently for different sites and different other circumstances. Data collection occurs over the normal course of serving advertisements on the various
- 10 Publisher web sites that are contemplated for future advertising campaigns. Data collection entails recording the impressions of each cookie. This is used to generate a database, which is analyzed as discussed below to establish what number of impressions are received by each user. This will quantifiably differentiate those sites where a small fraction of users receive a large share of impressions, from those other sites where impressions are relatively evenly distributed.
- 15 The frequency data is instrumental in establishing how many impressions are required to reach a selected number of users.

- In step 202, an optional data collection step may occur to further refine and improve the accuracy of the resulting predictions. The Advertising Service Company, in collecting cookie data for each of the several candidate publisher sites, generates a database of cookies that not
- 20 only may be used to determine duplication of advertising impressions for a given cookie at a given site, as in step 200, but which also may be used to determine the degree of overlap between sites. For each site, each cookie is checked against the cookie lists for other sites to determine if that cookie was also served an advertisement on another site during the same test interval. The percentage of cookies that were served only on the first site in question is
- 25 calculated, as is the percentage that were served on both the first site and each other site. For example, it may be determined that there is a 2% overlap between site A and site B, 3% overlap between site A and site C, and 5% overlap between site A and site D, with 90% of cookies